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Appeal  
Brief Hill  
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**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

**In re Application of:**

John W. Chrisman, III

**Serial No.:** 09/832,141

**Filed:** April 9, 2001

**For:** SCENTED BOWLING BALLS AND  
METHODS

**Examiner:** William Pierce

**Group Art Unit:** 3711

**Attorney Docket No.:** 4826US

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**BRIEF ON APPEAL**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Attention: Board of Patent Appeals and Interferences

Sirs:

This brief is submitted in TRIPLICATE pursuant to 37 C.F.R. § 1.192(a) and in the  
format required by 37 C.F.R. § 1.192(c) and with the fee required by 37 C.F.R. § 1.17(c):

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BOARD OF PATENT APPEALS  
AND INTERFERENCES

(1) REAL PARTY IN INTEREST

No assignment has been made or recorded in U.S. Serial No. 09/832,141, the patent application at issue in the above-referenced appeal. According, John W. Chrisman, III, the sole named inventor of the subject matter described and claimed in the above-referenced application, is the real party in interest to the above-referenced appeal.

(2) RELATED APPEALS AND INTERFERENCES

Neither Appellant, Appellant's representative, nor Assignee is aware of any pending appeal or interference which would directly affect, be directly affected by, or have any bearing on the Board's decision in the present pending appeal.

(3) STATUS OF CLAIMS

Claims 1-3, 5, 7-27, 29, and 31-33 are currently pending in the above-referenced patent application. Each of claims 1-3, 5, 7-27, 29, and 31-33 stands rejected.

Claims 4, 6, 28, and 30 were previously cancelled without prejudice or disclaimer.

No claims have been allowed.

The rejections of claims 1-3, 5, 7-27, 29, and 31-33 are being appealed.

(4) STATUS OF AMENDMENTS

Claims 1-33 were initially filed in the above-referenced application. Claims 1-33 were each rejected in the Office Action mailed on January 23, 2002.

In a responsive amendment, which was filed on April 23, 2002, several claims, including claims 1, 5, 10, 20, 23, 27, 29, and 31 were amended and claims 4, 6, 28, and 30 were canceled without prejudice or disclaimer.

The last amendments to the claims of the above-referenced patent application were those presented in the Amendment dated April 23, 2002.

Claims 1-3, 5, 7-27, 29, and 31-33 were again rejected in a Final Office Action mailed on May 31, 2001.

On September 24, 2002, an Amendment Under 37 C.F.R. § 1.116 was filed in response to the Final Office Action. In that Amendment, the patentability of the claims was pointed out and further amendments to claims 10, 20, 25-27, 29, and 31-33 were proposed to correct minor formal deficiencies in the pending claims.

The Office refused to enter the proposed claim amendments, as evidenced by the Advisory Action mailed on October 1, 2002.

A Notice of Appeal was filed in the above-referenced application was mailed on November 4, 2002.

Another Advisory Action, which reiterated the Office's refusal to enter the proposed amendments to claims 10, 20, 25-27, 29, and 31-33, was mailed on November 14, 2002.

(5) SUMMARY OF THE INVENTION

The invention disclosed in the above-referenced application and recited in the claims thereof includes scented bowling balls and other scented articles of manufacture, as well as methods for fabricating scented bowling balls and other scented articles of manufacture.

With reference to FIGs. 1-6 of the above-referenced patent application, a scented bowling ball 40 or other scented article of manufacture is formed from a substantially nonporous, substantially rigid rubber or rubber-like material, such as polyurethane, that has fragrance dispersed at least partially therethrough. *See, e.g.*, ¶ [0010].

The scented bowling ball 40 or other scented article of manufacture may be formed by adding fragrance to a liquid precursor material and mixing the fragrance and liquid precursor material together, preferably to homogeneity. *See, e.g.*, ¶ [0011]. For example, in forming a scented bowling ball 40 or other scented article of manufacture from polyurethane, a hydrophilic, or water-based fragrance may be mixed with a fraction of the polyol portion of the polyurethane. *Id.* The amount of fragrance in the liquid precursor may then be diluted by adding more of the liquid precursor to the mixture. *Id.*

Once the liquid precursor includes an amount, or concentration, of fragrance that will provide a final product (*i.e.*, a scented bowling ball 40 or other scented article of manufacture) with the desired scent, the liquid precursor material may be cured. *See, e.g.*, ¶ [0012]. In the case of the formation of a polyurethane structure, the polyol liquid precursor material may be cured by adding isocyanate, a catalyst. *Id.* The isocyanate and polyol may be quickly blended

with one another to form a homogeneous mixture, then introduced, or cast, into a mold. *Id.* The material is then cured or permitted to cure for a length of time and by one or more processes that depend, at least in part, upon the type of material that is being used to form the scented bowling ball 40 or other scented article of manufacture. *Id.*

Upon adequate curing of the nonporous, hard rubber or rubber-like material, so-called “finishing” processes may be conducted to further define the article of manufacture from the scented, substantially nonporous, hard rubber or rubber-like material. *See, e.g., ¶ [0013].*

(6) ISSUE

Whether a *prima facie* case of obviousness under 35 U.S.C. § 103(a) can be established against any of claims 1-3, 5, 7, 8, 10-27, 29, or 31 of the above-referenced patent application based on the combined teachings United States Patent 4,722,815 to Shinbanai (hereinafter “Shinbanai”) and U.S. Patent 4,293,602 to Coffey et al. (hereinafter “Coffey”); and

Whether a *prima facie* case of obviousness under 35 U.S.C. § 103(a) can be established against any of claims 9, 32, or 33 of the above-referenced patent application based on the combined teachings of Shinbanai, Coffey, and U.S. Patent 4,762,493 to Anderson (hereinafter “Anderson”).

(7) GROUPING OF CLAIMS

Although claims 1-3, 5, 7, 8, 10-27, 29, or 31 stand commonly rejected as being rendered obvious by the combined teachings of Shinbanai and Coffey, it is respectfully submitted that independent claims 1, 10, 20, and 27 stand and fall separately from one another, as each of these claims is directed to subject matter which differs significantly from that of the others of claims 1, 10, 20, and 27.

In particular, claim 1 is drawn to scented bowling ball. Claim 27 is more broadly directed to a scented article of manufacture. Claim 10 recites a method for manufacturing a bowling ball. Claim 20 is directed to a method for forming an article of manufacture.

Moreover, the specific elements of claims 10 and 20 differ significantly from one another. In particular, claim 10 broadly recites blending a fragrance into a liquified material which is subsequently cured, while claim 20 recites blending a fragrance into a polyol, removing gas or gas bubbles from the polyol, and combining the polyol and a polymerization catalyst therefor to cause these materials to at least partially polymerize.

Group 1: Claims 1-3, 5, 7, 8, and 9

Claims 1-3, 5, and 7-9 are grouped together. Claim 1 appears to be the most generic claim of Group 1. For purposes of this appeal, claims 2, 3, 5, 7, and 8 stand and fall with claim

1. While claim 9 stands with claim 1, it does not fall with claim 1.

Group 2: Claims 10-19

Claims 10-19 are grouped together. Claim 10 appears to be the most generic claim of Group 2. For purposes of this appeal, claims 11-19 stand and fall with claim 10.

Group 3: Claims 20-26

Claims 20-26 are grouped together. Claim 20 appears to be the most generic claim of Group 3. For purposes of this appeal, claims 21-26 stand and fall with claim 20.

Group 4: Claims 27, 29, and 31-33

Claims 27, 29, and 31-33 are grouped together. Claim 27 appears to be the most generic claim of Group 4. For purposes of this appeal, claims 29 and 31-33 stand with claim 27, but each of claims 32 and 33 falls alone.

(8) ARGUMENT

A. Relevant Law

The standard for maintaining a rejection under 35 U.S.C. § 103(a) is set forth in M.P.E.P. § 706.02(j):

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable

expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Other factors, including a high level of commercial success, evidence of copying by others, and long-felt but unmet needs, have long been considered to be indicia of nonobviousness.

B. References Relied Upon

*Shinbanai*

Shinbanai teaches a method for forming a synthetic resin product that includes incorporating an additive, such as a fragrance, into cyclodextrin. The cyclodextrin-fragrance compound is dried, powdered, and mixed with a resin in such a way as to convert reducing sugars that are present as impurities in the cyclodextrin into chemically stable glycitols. The product is then dried, powdered, and mixed with resin to form a product which may subsequently be mixed into a larger quantity of compatible resin so that fragrance or another additive may be included in an article of manufacture made with the larger quantity of compatible resin. In each of the Examples provided by Shinbanai, this fragrance-including resin is formed into pellets or ground into a powder. With respect to the types of resins in which the fragrance-imparting compound of Shinbanai may be used, the teachings of Shinbanai are limited to thermoplastic resins and thermoset resins. Shinbanai, col. 7, lines 59-66. This appears to be because thermoplastic and thermoset resins are often subjected to temperatures that may cause fragrance or other additives to decompose or evaporate.



If the resin of the fragrance-imparting compound comprises a thermoplastic material, the fragrance-imparting compound may be heated and, thus, dissolved into thermoplastic resins. If, however, the resin of the fragrance-imparting compound is a thermoset resin, or if the fragrance-imparting compound is used in a thermoset-resin that sets at a temperature that is less than the melting temperature of the fragrance-imparting compound, the a powder or small pellets of the fragrance-imparting compound must be dispersed throughout the resin from which an article of manufacture is to be made.

Shinbanai is silent as to the hardness of the materials into which the fragrance-including compound is incorporated, although none of those disclosed appears to approach the hardness of a bowling ball.

### *Coffey*

Coffey teaches the use of fragrant resins from which ornaments and jewelry pieces may be molded. The fragrances thereof are emitted from a natural botanical material, such as flowers or buds. Col. 2, lines 41-45. Additionally, an essential oil is absorbed into the natural botanical material or an accompanying fixative "to bolster the naturally occurring fragrance . . ." Col. 2, lines 49-55. The fragrances are bound by a fluorocarbon resin binder, which interlocks the botanical material when molded. *See* Col. 2, lines 45-49. The sole example provided by Coffey is a TEFLON 30 suspension, from which water is driven during the molding process. *See* Col. 4, lines 39-53; col. 5, lines 10-19. It is well known that fluorocarbon resins, such as TEFLON 30, are thermoplastic materials, not two-part resins.

*Anderson*

Anderson teaches scented crayons, which are formed from wax, and that the scents of crayons may correspond to their colors. It is well known that waxes are thermoplastic materials, not two-part resins.

C. Allowability of Claims Over Cited Art

1. Shinbanai and Coffey

Claims 1-3, 5, 7, 8, 10-27, 29, and 31 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the knowledge in the bowling ball art in view of the teachings of Shinbanai and, further, in view of the teachings of Coffey.

It is respectfully submitted that this combination of teachings does not support a *prima facie* case of obviousness under 35 U.S.C. § 103(a) against any of claims 1-3, 5, 7, 8, 10-27, 29, or 31.

The Final Office Action provides:

While Shinbanai does not detail the old and known methods of 'mixing perfume' and 'direct addition of perfume' that is at least partially dissolved within the resin, such are considered old when one further considers Coffey et al. as an example. Coffey teaches that it is an old expedient and would have been obvious to mix fragrances to two part resins in the forming of a fragrances polymer product." Final Office Action, page 2.

*Shinbanai and Coffey Do Not Teach or Suggest Each and Every Claim Element*

First, it is respectfully submitted that neither Shinbanai nor Coffey teaches or suggests each and every element of any of claims 1-3, 5, 7, 8, 11-13, 17-27, 29, or 31.

In particular, the teachings of Shinbanai are limited to use of a thermoplastic resin or thermoset resin, both of which are single-part resins, with fragrance incorporated therein to form articles of manufacture.

Independent claim 1, as well as claims 2, 3, 5, 7, and 8, which depend therefrom, require that a bowling ball include a mass comprising a two-part resin.

Claims 11-13, 18, and 19, which depend either directly or indirectly from claim 10, recite methods for manufacturing bowling balls that include providing a polyol, which is well known to be one part of a two-part polyurethane. Claim 17, which also depends from independent claim 10, more broadly recites a bowling ball manufacturing method which includes "introducing a polymerization catalyst for [a] liquified material into [a] cavity . . .," or introducing both a first part and a second part of a two-part resin into a cavity.

Independent claim 20, as well as claims 21-26 which depend therefrom, are drawn to a method for manufacturing an article of manufacture which includes, among other things, blending fragrance into a polyol, or first part of a two-part polyurethane resin, and introducing that mixture and a polymerization catalyst, or second part of the two-part polyurethane resin, into a cavity of a mold.

Independent claim 20, and claims 21-26 which depend therefrom, are further allowable over the asserted combination of Shinbanai and Coffey since neither of these references teaches

or suggests “substantially removing gas or gas bubbles from a mixture including [a] polyol and [a] fragrance . . .”

Claim 21 is further allowable since neither the bowling ball art nor Shinbanai teaches or suggests dissolving at least one fragrance in a polyol.

Claim 23 is additionally allowable because neither the bowling ball art nor Shinbanai teaches or suggests blending a polymerization catalyst for a polyol to a mixture that includes the polyol and at least one fragrance.

Claim 24 depends directly from claim 23 and is also allowable since neither the bowling ball art nor Shinbanai includes any teaching or suggestion of introducing an isocyanate into a cavity of a mold within which a mixture that includes the polyol and at least one fragrance is carried.

Like independent claim 1, independent claim 27, as well as claims 29 and 31 which depend therefrom, are directed to an article of manufacture which includes a mass that comprises a two-part resin.

Claim 31 is further allowable because neither the bowling ball art nor Shinbanai teaches or suggests an article of manufacture that comprises a two-part polyurethane into which at least one fragrance is at least partially dissolved.

As neither Shinbanai nor Coffey, taken either together or individually, teaches or suggests each and every element of any of claims 1-3, 5, 7, 8, 11-13, 17-27, 29, or 31, it is respectfully submitted that these references do not support a *prima facie* case of obviousness against any of claims 1-3, 5, 7, 8, 11-13, 17-27, 29, or 31.

*Shinbanai and Coffey Teach Away from the Claimed Invention and from the Asserted Combination*

Second, since Shinbanai and Coffey both teach articles of manufacture and manufacturing methods which are limited to introducing fragrance into a single-part thermoplastic or thermoset resin, Shinbanai and Coffey teach away from the subject matter recited in each of claims 1-3, 5, 7, 8, 11-13, 17-27, 29, and 31. As a *prima facie* case of obviousness cannot be based upon references that teach away from the claimed invention, it is respectfully submitted that each of claims 1-3, 5, 7, 8, 11-13, 17-27, 29, and 31 is allowable under 35 U.S.C. § 103(a).

Moreover, it is respectfully submitted that Shinbanai and Coffey both teach away from the use of fragrance in two-part polyurethane resins that have been used to manufacture bowling balls. This is because the teachings of Shinbanai and Coffey are limited to the use of fragrances in single-part resins. As a *prima facie* case of obviousness cannot be based upon references that teach away from one another, it is respectfully submitted that each of claims 1-3, 5, 7, 8, 11-13, 17-27, 29, and 31 is allowable under 35 U.S.C. § 103(a).

*No Motivation to Combine the Teachings of Shinbanai and Coffey*

Third, it is respectfully submitted that one of ordinary skill in the art would not have been motivated to combine the teachings of Shinbanai and Coffey in the manner that has been asserted. As discussed in the specification of the above-referenced application, bowling balls are generally composed of polyurethane materials. A bowling lane typically comprises a hardwood

surface which is usually coated with a wax or oil to reduce friction as the bowling ball is rolled therealong.

As a bowling ball is thrown or rolled down a bowling lane, a spin is sometimes placed on the ball either by the player or by the central gravity of the ball. This causes the ball to “hook” somewhat diagonally across the lane. In order to successfully hit the pins to obtain a strike, the ball must contact the pin formation in one of a few specific locations. Similarly, in order to hit specific pins, the “hook” of a ball must be known, so that appropriate spin may be generated. For each bowling ball, the “hooking” ability is determined by the interaction of the ball surface with the lane. While each bowling ball should have the same “hook”, in practice, any substance added to a bowling ball changes the porosity, the density or other aspects of the bowling ball surface, altering the manner in which the bowling ball spins and, thus, the “hook” of the bowling ball. Players are known to select balls based on manufacturer and even color in order to maximize their ability to throw the ball correctly and consistently. One of ordinary skill in the art would know that adding any additional substance to a bowling ball would alter the surface of the ball, causing it to roll differently and “hook” sooner or later as it rolls down the lane. Accordingly, one of ordinary skill in the art would not be motivated to add fragrance to the material of the bowling ball, as it would alter the known playability of the bowling ball in an unreliable manner.

Accordingly, it is respectfully submitted that independent claim 1 is not obvious in view of the cited prior art for the reasons discussed previously herein and those presented in the Amendment filed in response to the earlier Office Action. Applicant requests this rejection

should be withdrawn and the claim 1 be allowed. Similarly, claims 2, 3, 5, 7, and 8 are each allowable, among other reasons, as depending from claim 1, which is allowable.

With respect to independent claim 10, it is respectfully submitted that, for the same reasons provided above with respect to independent claim 1, one of ordinary skill in the art would neither have been motivated to combine the well-known teachings in the bowling ball art with the teachings of the cited references in the manner that has been asserted in the Office Action Made Final, as such a combination would alter the playability of the resulting bowling ball.

Accordingly, it is respectfully submitted that no *prima facie* case of obviousness has been set forth with respect to the subject matter recited in independent claim 10. Further, each of claims 11-19 is allowable, among other reasons, as depending either directly or indirectly from claim 10, which is allowable.

2. Shinbanai, Coffey, and Anderson

Claims 9, 32, and 33 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the bowling ball art, in view of Shinbanai, Coffey, and Anderson.

As explained above, independent claim 1, from which claim 9 depends, and independent claim 27, from which claims 32 and 33 depend, define over the teachings of the bowling ball art, Shinbanai, and Coffey.

While Anderson teaches crayons with scents that correspond to their colors, Anderson merely provides an additional teaching of a one-part material, wax, which has fragrance mixed

therein. Thus, Anderson does not remedy the previously discussed deficiencies of any of the bowling ball art, Shinbanai, or Coffey.

As such, claim 9 is allowable, among other reasons, as depending from claim 1, which is allowable, while claims 32 and 33 are both allowable, among other reasons, as respectively depending directly and indirectly from claim 27, which is allowable.

In view of the foregoing, it is respectfully requested that the 35 U.S.C. § 103(a) rejections of claims 1-3, 5, 7-27, 29, and 31-33 be reversed.

(9) APPENDICES

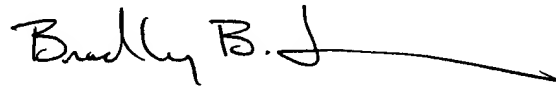
A copy of claims 1-3, 5, 7-27, 29, and 31-33 is appended hereto as "Appendix A."



(10) CONCLUSION

It is respectfully submitted that a *prima facie* case of obviousness under 35 U.S.C. § 103(a) has not been established against any of claims 1-3, 5, 7-27, 29, or 31-33. Therefore, reversal of the 35 U.S.C. § 103(a) rejections of each of these claims is respectfully requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Bradley B. J.", followed by a long horizontal line extending to the right.

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**APPENDIX A**

1. (Amended) A bowling ball, comprising:  
a mass comprising a two-part resin; and  
a fragrance at least partially dissolved in at least a portion of said two-part resin of said mass.
2. The bowling ball of claim 1, wherein said mass is substantially nonporous.
3. The bowling ball of claim 1, wherein said mass is substantially rigid.
5. (Amended) The bowling ball of claim 1, wherein said two-part resin comprises polyurethane.
7. The bowling ball of claim 1, wherein said fragrance is dispersed throughout at least said portion of said polymeric material.
8. The bowling ball of claim 1, wherein said fragrance comprises up to about 2% of the weight of the bowling ball.
9. The bowling ball of claim 1, further comprising a pigment, wherein a scent of said fragrance correlates with a color of said pigment.

16. The method of claim 10, wherein said curing comprises permitting said liquified material to harden.

17. The method of claim 10, wherein said curing comprises introducing a polymerization catalyst for said liquified material into said cavity with said liquified material and said at least one fragrance.

18. The method of claim 17, wherein said providing said liquified material comprises providing a polyol.

19. The method of claim 18, wherein said introducing said polymerization catalyst comprises providing an isocyanate.

20. (Twice amended) A method for forming an article of manufacture, comprising:  
providing a polyol;  
blending at least a fragrance directly into said polyol;  
substantially removing gas or gas bubbles from a mixture including said polyol and said fragrance;  
introducing said mixture and a polymerization catalyst therefor into a cavity of a mold; and  
permitting a blend including said polyol and said polymerization catalyst therefor to at least partially polymerize to form the article of manufacture.

21. The method of claim 20, wherein said blending at least said fragrance comprises dissolving at least one fragrance in said polyol.

22. The method of claim 20, wherein said blending at least said fragrance comprises dispersing at least one fragrance throughout said polyol.

23. (Previously amended) The method of claim 20, wherein said introducing includes blending said polyol and said polymerization catalyst therefor.

24. The method of claim 20, wherein said introducing said polymerization catalyst includes introducing isocyanate into said cavity with said polyol.

25. The method of claim 20, further comprising removing the article of manufacture from said cavity.

26. The method of claim 25, further comprising removing irregularities from the article of manufacture.

27. (Amended) An article of manufacture, comprising:  
a substantially rigid, substantially nonporous mass comprising a two-part resin; and  
fragrance at least partially dissolved within at least a portion of said two-part resin.

29. (Amended) The article of claim 27, wherein at least a portion of said fragrance is dispersed throughout said two-part resin of at least a portion of said mass.

31. (Amended) The article of claim 27, wherein said two-part resin comprises a two-part polyurethane.

32. The article of claim 27, further comprising a pigment.

33. The article of claim 32, wherein a scent of said fragrance correlates with a color of said pigment.

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